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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/074,103	02/12/2002	Robert J. Sinaiko	SHPR-01041USS SRM	8118
23910	7590	12/02/2003	EXAMINER	
FLIESLER DUBB MEYER & LOVEJOY, LLP			TRAN, THAO T	
FOUR EMBARCADERO CENTER				
SUITE 400			ART UNIT	
SAN FRANCISCO, CA 94111			PAPER NUMBER	
			1711	

DATE MAILED: 12/02/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

### Application No.

10/074,103

### Applicant(s)

SINAIKO ET AL.

### Examiner

Thao T. Tran

### Art Unit

1711

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-4,7-9,11-14,17-19 and 21-30 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-4,7-9,11-14,17-19 and 21-30 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. §§ 119 and 120

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

## **DETAILED ACTION**

### ***Response to Amendment***

1. This is in response to the Amendments received on August 28, 2003. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office Action.
2. Claims 1-4, 7-9, 11-14, 17-19, and 21-30 are currently pending in this application. Claims 5-6, 10, 15-16, and 20 have been canceled. Claims 29-30 have been newly added.

### ***Specification***

3. In view of the prior Office Action of April 23, 2003, the objection to the disclosure has been withdrawn upon further consideration.
4. The amendment filed on August 28, 2003 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material, which is not supported by the original disclosure, is as follows: paragraph 0133, "the tail section can be configured into a "V" shape".

Applicant is required to cancel the new matter in the reply to this Office Action.

### ***Claim Rejections - 35 USC § 112***

5. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

6. In view of the prior Office Action of April 23, 2003, the rejection of claims 22, 24, 26, and 28 are rejected under 35 U.S.C. 112, first paragraph, has been withdrawn due to the Amendments made thereto.

7. Claims 1-2, 7-8, 11-12, 17-18, and 29-30 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Claims 1 and 11 contain the limitation "at least two of the surfaces meet at an oblique angle" that has no support in the disclosure as originally presented.

Claims 2 and 12 contain the limitations "said plurality of second electrodes are nested" and "the at least one bend being coordinated to support nesting" that have no support in the disclosure as originally presented.

Claim 8 contains the limitation "the nose section and the tail section are substantially planar" and claim 18 the limitation "the nose and the tail are substantially planar" that have no support in the disclosure as originally presented.

7. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

8. In view of the prior Office Action of April 23, 2003, the rejection of claims 1-8, 11-18, 21-22, 24-26, and 28 under 35 U.S.C. 112, second paragraph, has been withdrawn due to the Amendments made thereto.

9. Claims 2, 8, 12, 18, and 29-30 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter, which applicant regards as the invention.

Claims 2 and 12 are indefinite due to the use of "the at least one bend being coordinated to support nesting". It is unclear to the examiner as to how the bend in the electrode is used to support nesting.

Claims 8 and 18 are indefinite due to the use of "substantially planar". It is unclear to the examiner as to how substantially planar would be different from planar. Clear definition of "substantially planar" is required.

Claims 8 and 18 are further indefinite because it is unclear to the examiner as to how both the nose and the tail sections of the electrode could be planar. A clear description of the electrode is required.

Claim 8 recites the limitation "the nose section and the tail section" in line 1. There is insufficient antecedent basis for this limitation in the claim.

#### ***Double Patenting***

10. Claims 1, 3-11, 13-20, 22, 24, 26, and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-12, 21-27 of U.S. Patent No. 6,152,146. Although the conflicting claims are not identical, they are not patentably distinct from each other because the claims of the patent contain the subject matter that is narrower in scope than that of the instant claims, rendering them obvious over each other.

The claims of the patent recite a housing (body) having at least one vent and an ion generator, the ion generator comprising a high voltage generator and an electrode assembly, wherein the second electrodes are hollow and have a first surface and a second surface with a skirt-like region extending in the downstream direction, and an electrostatic flow being created that flows down stream toward the second electrodes. The claims of the patent further teach the second electrodes being U-shaped with a bulbous nose region and trailing edge regions, or L-shaped with a curved nose region, which reads on the surfaces of the electrodes meeting at an angle. The claims of the patent further teach additional limitations, such as the duty cycle and the potential of the voltage generator. Therefore, the scope of the claims of the patent embraces that of the instant claims, rendering them obvious over each other.

With respect to claims 22, 24, 26, 28, although the claims of the patent do not teach the second electrodes to be V-shaped with a rounded nose, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that a V-shaped electrode would have been an obvious matter of design choice; because a V shape with a rounded nose would have been an obvious variant of a U shape with a rounded nose or an L shape with a curved nose region, since the ion generating system would have worked equally well whether the electrodes are V-shaped with a rounded nose, U-shaped with a rounded nose, or L-shaped with a curved nose. Moreover, Applicants have not disclosed whether this particular shape of the second electrodes would be more advantageous than the other shape. See MPEP 2144.04, section VIC.

11. Claims 1, 3-11, 13-20, 22, 24, 26, and 28 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1-20 of U.S. Patent No. 6,176,977. Although the conflicting claims are not identical, they are not patentably

distinct from each other because the claims of the patent contain the subject matter that is narrower in scope than that of the instant claims, rendering them obvious over each other.

The claims of the patent teach a housing having at least one vent and an ion generator, the ion generator comprising a high voltage generator and an electrode assembly, wherein the second electrodes are hollow. The claims of the patent further teach an electrostatic flow being created that flows down stream toward the second electrodes; and the second electrodes are U-shaped with a bulbous nose region and trailing edge regions, or L-shaped with a curved nose region, which reads on the surfaces of the electrodes meeting at an angle. The claims of the patent further teach additional limitations, such as the duty cycle and the potential of the voltage generator. Therefore, the scope of the claims of the patent embraces that of the instant claims, rendering them obvious over each other.

With respect to claims 22, 24, 26, 28, although the claims of the patent do not teach the second electrodes to be V-shaped with a rounded nose, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that a V-shaped electrode would have been an obvious matter of design choice; because a V shape with a rounded nose would have been an obvious variant of a U shape with a rounded nose or an L shape with a curved nose, since the ion generating system would have worked equally well whether the electrodes are V-shaped with a rounded nose, U-shaped with a rounded nose, or L-shaped with a curved nose. Moreover, Applicants have not disclosed whether this particular shape of the second electrodes would be more advantageous than the other shape. See MPEP 2144.04, section VIC.

***Claim Rejections - 35 USC § 102***

12. Claims 1, 3-4, 7-9, 11, 13-14, 17-19, 22, 24, 26, and 28 are rejected under 35 U.S.C. 102(e) as being anticipated by Taylor et al. (US Pat. 5,975,090).

The applied reference has a common Assignee and a common inventor with the instant application. Based upon the earlier effective U.S. filing date of the reference, it constitutes prior art under 35 U.S.C. 102(e). This rejection under 35 U.S.C. 102(e) might be overcome either by a showing under 37 CFR 1.132 that any invention disclosed but not claimed in the reference was derived from the inventor of this application and is thus not the invention "by another," or by an appropriate showing under 37 CFR 1.131.

Taylor teaches a housing (body) having an air inlet 130 and an air outlet 150, an ion generator 160, disposed inside the housing and having first and second electrodes; a voltage generator coupled to the electrodes; wherein each of the second electrodes comprises two or more surfaces that are at an angle to each other (see Figs. 1-2, 4-5; col. 3, ln. 27-35; col. 7, ln. 1-8).

Taylor further teaches the second electrodes to be hollow, or have a downstream tail section that is substantially wider than an upstream nose region, or an upstream leading planar section and a downstream trailing section that is at an angle to the leading planar section, or that the surfaces are planar (see Figs. 1a-b, 4a-4k). Taylor further teaches the second electrodes to be V-shaped with the rounded end located closer to the first electrodes (see Figs. 4d-4f).

13. Claims 1, 8, 11, and 18 are rejected under 35 U.S.C. 102(b) as being anticipated by Lee (US Pat. 4,789,801).

Lee teaches a system, comprising a housing 20, first and second electrodes 50 and 52; a high voltage generator 12; wherein the second electrodes comprises two or more surfaces that are at an angle to each other (see Figs. 1-3).



Lee further teaches the second electrodes having a downstream tail section that is substantially wider than an upstream nose section; an upstream planar section and a downstream trailing section that is at an angle to the leading planar section; two or more surfaces are each planar (see Figs. 1-6).

***Claim Rejections - 35 USC § 103***

14. Claims 21, 23, 25, 27, 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taylor.

Taylor is as set forth in claims 1, 3-4, 7-9, 11, 13-14, 17-19, 22, 24, 26, and 28 above and incorporated herein.

Taylor further teaches the second electrodes being teardrop-shaped with a small rounded end and a large bulbous end (see Fig. 1a).

In regards to claims 21, 23, 25, and 27, Taylor differs from the presently claimed invention because the reference teaches the small rounded end is located away instead of near the first electrodes. However, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that whether the second electrodes are positioned such that the small rounded end would be away or near the first electrodes would be an obvious matter of design choice, depending upon user's preference and intended use. Having the second electrodes positioned with the small rounded end toward the first electrodes would have created more laminar flow around the second electrodes, which would have given longer contact of the air flow with the electrodes, and hence would have resulted in similar entrapment of particles by the second electrodes. See *MPEP 2144.04, VIC*.

In regards to claims 29-30, although Taylor does not teach the second electrodes to be Z-shaped, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that a particular configuration of the electrodes would have been an obvious matter of design choice, since the ion generating system would have worked equally well whether the electrodes are Z-shaped or teardrop shaped; and hence would have insignificant patentable weight. Moreover, Applicants have not disclosed the advantages of this Z-shaped configuration over the other shape. See MPEP 2144.04, section IVB.

15. Claims 3-4, 9, 13-14, 19, 21, 23, 25, 27, and 29-30 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee.

Lee is as set forth in claims 1 and 11 above, and incorporated herein.

Lee further teaches the second electrodes being teardrop-shaped with a small rounded end and a large bulbous end (see Fig. 2).

Lee differs from the presently claimed invention because the reference teaches the small rounded end is located away instead of near the first electrodes. However, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that whether the second electrodes are positioned such that the small rounded end would be away or near the first electrodes would be an obvious matter of design choice, depending upon user's preference and intended use. Having the second electrodes positioned with the small rounded end toward the first electrodes would have created more laminar flow around the second electrodes, which would have given longer contact of the air flow with the electrodes, and hence would have resulted in similar entrapment of particles by the second electrodes. See *MPEP 2144.04, VIC.*

In regards to claims 29-30, although Lee does not teach the second electrodes to be Z-shaped, it would have been obvious to one of ordinary skill in the art, at the time the invention was made, that a particular configuration of the electrodes would have been an obvious matter of design choice, since the ion generating system would have worked equally well whether the electrodes are Z-shaped or teardrop shaped; and hence would have insignificant patentable weight. Moreover, Applicants have not disclosed the advantages of this Z-shaped configuration over the other shape. See MPEP 2144.04, section IVB.

#### ***Response to Arguments***

16. Applicant's arguments filed on August 28, 2003 have been fully considered but they are not persuasive.

Throughout the Remarks, Applicants contend that none of the references teaches two surfaces of the second electrodes defining a channel for the flow of air in the downstream direction. However, as illustrated in the Figures of all references the surfaces of each U-shaped and L-shaped electrodes do define a channel for the flow of air in the downstream direction. See Taylor '146, Figs. 4A-4D, for example. Furthermore, since the reference teaches all the structural elements as presently claimed, they should be able to perform the same functions. Moreover, it has been within the skill in the art that the manner of operation would have no significant patentable weight in an apparatus claim.

In response to Applicants' argument that in the L-shaped electrodes, the nose section is substantially wider than the tail section, it is hereby noted that the L-shaped electrodes in all references are described as having a curved nose, and therefore, the tail section would be wider

Art Unit: 1711

than the nose section. Moreover, Applicants are reminded that how the electrodes are operated would have no significant patentable weight in an apparatus claim. And furthermore, how the electrodes are positioned or a particular configuration of an electrode would have been an obvious matter of design choice, depending upon user's preference and intended use, and therefore, would have insignificant patentable weight.

With respect to Applicants' argument that the Z-shaped electrodes would be able to attract larger particles, it is hereby noted that the instant specification also discloses that the Z-shaped electrodes work equally well as the teardrop-shaped electrodes (see specification, paragraph 0133).

Therefore, the prior art of Taylor '146, Taylor '977, Taylor '090, and Lee '801 still applied.

### ***Conclusion***

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event,

Art Unit: 1711

however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thao T. Tran whose telephone number is 703-306-5698, or 571-272-1080 (after about 12/04/03). The examiner can normally be reached on Monday-Friday, from 8:30 a.m. - 5:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Seidleck can be reached on 703-308-2462. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

tt

tt  
November 25, 2003

  
RABON SERGENT  
PRIMARY EXAMINER